



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,356	12/21/2006	Kazuhiro Kobayashi	KOBAYASHI22	1300
1444 7590 04/06/2009 BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			EXAMINER ROBINSON, RYAN C	
			ART UNIT 2614	PAPER NUMBER
			MAIL DATE 04/06/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,356	Applicant(s) KOBAYASHI ET AL.	
	Examiner RYAN C. ROBINSON	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,6 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,6 and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/3/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit **2614**.
2. This communication is responsive to the applicant's response/amendment filed on 1/6/2009.
3. Claims 1, 5, and 6 have been amended on 1/6/2009.
4. Claims 2-4, and 7-13 have been canceled on 1/6/2009.
5. Claims 14-16 have been added on 1/6/2009.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2614

2. Claims 1, 5-6, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bank et al., U.S. Publication No 2003/0059069, published on 3/27/2003.

3. As to claim 1, Oshino discloses a panel type speaker (Fig. 2), comprising: an exciter including a bimorph type beam (12), which is made of a piezoelectric material (The material is two layers; Col. 2, lines 42-44), and in each which a flexural oscillation is excited, and a beam holding part (8, 18) for holding the beams (12); and a diaphragm (6), which is attached to the exciter at the beam holding part (8, 18) to generate a flexural oscillation based on oscillation transmitted from the exciter, the area of the bottom surface (8c) of the beam holding part (8), being fixed to a surface of the diaphragm (6) so that the exciter (12) is held on the diaphragm.

It is noted that Oshino does not teach the exact dimensions of the bottom surface of the beam holding part of the exciter, and that the exciter includes more than one beam, and that the diaphragm serves as a protective plate for a display. However, the technique of determining the size of a component coupling a vibration transducer to a panel, as well as the use of multiple beams is well known in the art, and Bank teaches that the parameters of the beam holding part should be selected according to the desired acoustic characteristic (Para. 0021, lines 1-4), and the use of multiple beams (See Fig. 5, elements 43, 51) for a desired frequency range (Para. 0063, lines 4-7). Furthermore, Bank teaches that such a device can serve as a protective plate for a display (Para. 0040, lines 4-7). Therefore one of ordinary skill in the art would have

Art Unit: 2614

selected a proper dimension of the bottom surface of the beam holding part for the desired acoustic characteristic, including an area which is greater than or equal to one-fourth of an area of the largest beam of the beams, the use of more than one beam for the desired frequency range, and a diaphragm serving as a protective plate for a display.

4. As to claim 5, with respect to claim 1, the combination of Oshino and Bank discloses that the beams of the exciter (Bank: Fig. 5, elements 43, 51) comprise two beams having different lengths, and an elastic spacer (48) is fixed to one beam to preserve a certain interval or more between the beams.

5. As to claim 6, with respect to claim 1, the combination of Oshino and Bank discloses that the beam holding part has lateral extensions extended in a longitudinal direction of the beams of the exciter (Fig. 11, element 148), contains the beams (143, 144) in the beam holding part, and has a box-shaped structure.

6. As to claim 16, with respect to claim 1, the combination of Oshino and Bank teaches that the beams of the exciter are two beams of different length (Bank: Fig. 5, elements 43, 51) and the bottom surface of the beam holding part of the exciter has an area that is greater than or equal to one-fourth of an area of the longest beam of the two beams (See claim 1 rejection above).

Art Unit: 2614

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bank et al., U.S. Publication No 2003/0059069, published on 3/27/2003 (hereby Bank), in view of Oshino, U.S. Patent No. 6,088,464, published on 7/11/2000 (hereby Oshino).

8. As to claim 14, Bank discloses a panel speaker (Fig. 11) comprising: an exciter including bimorph beams (143, 144) which are made of a piezoelectric material and in each of which a flexural oscillation is excited, and a beam holding part (146, 148) for holding the beams; a diaphragm (145) which is attached to the exciter at the beam holding part (146) to generate a flexural oscillation based on oscillation transmitted from the exciter and serves as a protective plate for a display (Para. 0040, lines 6-7);

It is noted that Bank does not explicitly disclose an acoustic characteristic regulating mechanism formed on a top surface of the beam holding part of the exciter and having a resonance point in a frequency range of the speaker, the acoustic characteristic regulating mechanism including an elastic layer fixed to the top surface of the beam holding part of the exciter and a weight fixed on the elastic layer. However, Bank does teach that the use of a weight as an acoustic regulating mechanism is well known in the art (Para. 0075, lines 1-3). Oshino teaches an acoustic characteristic regulating mechanism (Fig. 2, element 16) formed on a top surface of the beam holding part (18) of the exciter and having a resonance point in a frequency range of the speaker (Col. 3, lines 11-14), the acoustic characteristic regulating mechanism including an elastic layer (The layer is preferably an elastomer; Col. 2, lines 63-64) fixed to the

Art Unit: 2614

top surface of the beam holding part (18) of the exciter and a weight (16) fixed on the elastic layer. Therefore, it would have been obvious to one of ordinary skill in the art, to include an acoustic characteristic regulating mechanism as taught by Oshino, in the speaker disclosed by Bank.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bank et al., U.S. Publication No 2003/0059069, published on 3/27/2003 (hereby Bank)

10. As to claim 15, Bank discloses a panel speaker (Fig. 5) comprising: an exciter including bimorph beams (44, 46) which are made of a piezoelectric material and in each of which a flexural oscillation is excited, and a beam holding part (48, 56) for holding the beams; a diaphragm (54) which is attached to the exciter at the beam holding part to generate a flexural oscillation based on oscillation transmitted from the exciter and serves as a protective plate for a display (Para. 0040, lines 6-7); and an acoustic characteristic regulating mechanism (51) formed on a top surface of the beam holding part (48) of the exciter and having a resonance point in a frequency range of the speaker, the acoustic characteristic regulating mechanism including a plated spring (51) fixed at the top surface of the beam holding part (48) and extending along a longitudinal direction of the beams.

Response to Arguments

11. Applicant's arguments with respect to claims 1, 5-6, and 14-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record

- | | | |
|----|-----------------------|---------------------|
| a. | US Patent Number | 6,088,464 |
| b. | US Publication Number | 2003/0059069 |

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan C. Robinson whose telephone number is (571)

Art Unit: 2614

270-3956. The examiner can normally be reached on Monday through Friday from 9 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan Robinson

/Suhan Ni/

Primary Examiner, Art Unit 2614